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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,579	08/25/2003	Toshiyuki Takabayashi	03500/HG	4092

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EXAMINER	
BERMAN, SUSAN W	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/648,579	TAKABAYASHI, TOSHIYUKI	
	Examiner	Art Unit	
	Susan W Berman	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) 8-11 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-11 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 25 August 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/03, 3/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-7, drawn to a composition comprising a photoacid generator and cationically polymerizable compounds, classified in class 522, subclass 31.

II. Claims 8-10, drawn to a method for ink jet printing, classified in class 427, subclass 466.

III. Claim 11, drawn to an apparatus for ink jet recording, classified in class 374, subclass 1.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II or III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the composition as claimed can be used in a materially different process, such as for coating a substrate by a method other than ink jet printing, for making a film, or for making a composite.

Inventions II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process as claimed can be practiced by a maerially different process wherein the recording head is not heated to the temperature range set forth in claim 11. Alternatively, the apparatus as claimed can be used to practice another and materially different process such as a process comprising the use of a materially different composition or a process irradiating the ink composition.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper. Because these inventions are distinct for the reasons given above and the search required for

Group III is not required for Group II or I and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Marshall J. Chick on March 7, 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-7. Affirmation of this election must be made by applicant in replying to this Office action. Claim 8-11 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compositions comprising (1) an oxetane compound and/or an oxirane compound and (2) sulfonium salts wherein the "substituents" R_1 to R_{13} are selected from those set forth in paragraph [0037] in US publication 2004/0052968, does not reasonably provide enablement for compositions comprising a photoacid generator and no photopolymerizable compound. The specification does not

enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of the word "general" in "General Formula" renders the claims indefinite because it is not clear whether applicant intends to claim a compound of the formula set forth or compounds of the same "general" type suggested by the formula set forth. The kinds of substituents R_1-R_{13} are not clearly defined in the claims. See paragraph [0037] in US publication 2004/0052968. It is not clear what kinds of substituents would provide the bond distance properties set forth in the claim. Claim 1 fails to set forth what kind of polymerizable compound(s) is/are intended to be radiation cured.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohkawa et al (6,368,769). Ohkawa et al disclose compositions comprising an aromatic sulfonium salt of formula 1 in column 4, lines 1-18, wherein R^1 is phenylene, thus providing a sulfonium salt having at least one substituent other than H on a phenyl group. The sulfonium salt corresponds to formula II in the instant claims. See synthesis examples 1-6. Polymerizable epoxy and oxetane and vinyl ether compounds are taught in column 8, lines 15-24. Pigment is taught in column 11, line 29.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkawa et al. See the discussion of Ohkawa et al above. Ohkawa et al teach mono-oxetane compounds and bis-oxetane compounds and that the compounds can be used independently or in combination (column 9, line 38, to column 10, line 28. Oxetane compounds are said to effect flexible properties for the moldings disclosed. Ohkawa et al also teach compositions comprising an oxetane compound in an amount of 30% or more and epoxy resin in an amount of 70% or less (column 11, lines 3-10). Ohkawa et al do not specifically teach compositions comprising a mono-oxetane compounds and bis-oxetane compound or compositions comprising an oxetane compound and an epoxy compound in the weight percents recited in claim 5. With respect to claim 4, It would have been obvious to one skilled in the art at the time of the invention to provide a composition comprising 60-95 weight percent oxetane compound and 5-40 weight percent epoxy compound from the teaching of Ohkawa et al to use more than 30% oxetane compound in combination with an epoxy compound. With respect to claim 5, It would have been obvious to one skilled in the art at the time of the invention employ a combination of oxetane compounds having one oxetane ring and having two or more oxetane rings, as suggested by Ohkawa et al. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully providing a composition for stereolithography taking advantage of the flexibility properties of the oxetanes and the fast curing properties of the epoxies taught by Ohkawa et al.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/746170. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. The claims of SN '170 set forth compositions comprising a photoacid generator and an oxetane compound alone or in mixtures with different oxetane compounds, an epoxy compound and/or a vinyl ether compound. The photoacid generator taken in view of the sulfonium initiators disclosed in SN '170 and Initiator 1 in SN '170, which corresponds to formula II in the instant claims, suggests the instantly claimed compositions wherein the photoacid generator is formula II. It would have been obvious to one skilled in the art at the time of the invention to select a sulfonium salt of formula II as the photoacid generator in the claims of SN '170 because a sulfonium salt photoacid generator of formula II is disclosed and used in the examples of SN '170.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stone et al (6,451,873), Hiwara et al (6,166,100), Akaki et al (5,882,842), Takahasi (6,313,188), Crivello et al (5,463,084), Sugiyama et al (6,495,636) and Igarishi et al (5,674,922) each disclose compositions comprising sulfonium salts of the same general type as the instantly claimed formulas wherein all R groups on the phenyl groups are H (hydrogen), thus excluded from the instant claims. Nishizeki et al [US 2004/025171] disclose oxetane compositions comprising sulfonium salts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan W Berman
Primary Examiner
Art Unit 1711

SB
3/10/05